CLAIMS

1. A method, comprising:

monitoring a level of a power source that provides operating power to a control circuit, the control circuit being of a type that senses signals in windings of a polyphase motor to maintain synchronization therewith; and

converting kinetic energy of the polyphase motor into operating power for the control circuit when the level has fallen below a threshold level, such that the control circuit is capable of maintaining synchronization with the polyphase motor.

2. The method of claim 1, wherein the signals in the windings of the polyphase motor are back electromotive force (BEMF) signals that are used by the control circuit to determine a rotor position of the polyphase motor.

3. The method of claim 2, further comprising using the BEMF voltage to produce the operating power for the control circuit.

4. The method of claim 3, further comprising boosting the BEMF voltage to produce the operating power for the control circuit.

5. The method of claim 1, wherein the control circuit is operable to provide commutation signals to a driver circuit for commutating the windings of the polyphase motor such that it produces motoring torque during a motoring mode, the method further comprising: inhibiting the motoring commutation

control signals to the driver circuit in order to convert the kinetic energy of the polyphase motor into operating power for the control circuit.

6. The method of claim 5, further comprising enabling the motoring commutation control signals to the driver circuit when the level rises sufficiently with respect to the threshold, wherein the step of enabling may be carried out without first stopping and restarting the polyphase motor.

7. An apparatus, comprising:

a voltage sensing circuit operable to monitor a level of a power source that provides operating power to a control circuit, the control circuit being of a type that senses signals in windings of a polyphase motor to maintain synchronization therewith; and

a power conditioning circuit operable to convert kinetic energy of the polyphase motor into operating power for the control circuit when the level has fallen below a threshold level, such that the control circuit is capable of maintaining synchronization with the polyphase motor.

8. The apparatus of claim 7, wherein the signals in the windings of the polyphase motor are back electromotive force (BEMF) signals that are used by the control circuit to determine a rotor position of the polyphase motor.

9. The apparatus of claim 8, wherein the power conditioning circuit is operable to use the BEMF voltage to produce the operating power for the control circuit.

10. The apparatus of claim 8, wherein the power conditioning circuit is operable to boost the BEMF voltage to produce the operating power for the control circuit.

11. The apparatus of claim 10, further comprising a voltage regulator circuit operable to provide signaling to the power conditioning circuit to regulate the operating power to the control circuit such that the control circuit is capable of maintaining synchronization with the polyphase motor.

12. The apparatus of claim 11, wherein the control circuit is operable to provide commutation signals to a driver circuit for commutating the windings of the polyphase motor such that it produces motoring torque during a motoring mode.

13. The apparatus of claim 12, wherein at least one of the voltage sensing circuit and the power conditioning circuit is operable to inhibit the commutation control signals to the driver circuit in order to convert the kinetic energy of the polyphase motor into operating power for the control circuit.

14. The apparatus of claim 13, wherein at least one of the voltage sensing circuit and the power conditioning circuit is operable to enable the commutation control signals to the driver circuit when the level rises sufficiently with respect to the threshold, and such that the enabling may be carried out without first stopping and restarting the polyphase motor.